

Combined Finite Element-Charge Simulation Computation Of Monopolarcorona On Bundle Wires

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Summary

In this paper, the corona current and hence the corona power loss associated with bundle wires is estimated by a combined iterative computational technique based on the finite element (FE) and charge simulation (CS) methods. The investigated bundled transmission lines consist of one-, two-, and three-wires. Variation of the corona power loss as a function of the number of wires, wires orientation as well as the bundle spacing is investigated. The contribution of each bundle wire to the total corona power loss is also reported. A laboratory model was built to investigate the effectiveness of the new iterative technique. It has been found that the results agreed well with the experimental values

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